

Remarks

The present Response is to the Office Action mailed 11/25/2008, made final. Claims 1-13 and 15-22 are standing for examination.

Detailed Action

1. Claims 1-13 and 15-22 remain for examination. The correspondence filed 8/28/08 amended claims 1, 9-13, 15-17, 19, and 20.

Response to Arguments

2. Applicant's arguments, see the amendment filed 8/28/08, with respect to the rejection(s) of claim(s) 1-22 under 35 USC 102(e) in view of Atsmon have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly discovered reference to Antebi.

Applicant's response: Acknowledged

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-13 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsmon et al. (U.S. Patent 6,607,136) in view of Antebi et al. (U.S. Patent 7,334,735).

Regarding claims 1 and 16:

Atsmon discloses a method and apparatus for securing online transactions on the Internet comprising: a smart card transmitting an identification sequence to the microphone input of the PC in the form of a modulated signal (element 10 of Figure 1;

col. 31, lines 29-55; modulated signals at col. 11, lines 1-3 and col. 31, lines 10-15); a connector connecting an output of the smart card transmission to the microphone input of the PC soundcard: (The microphone: col. 3, lines 45-63; element 112 of Figure 11) and a PC applet, executed by the PC, demodulating the identification sequence (col. 32, lines 25-50 and 64-67).

Although Atsmon discloses providing modulated voltage signals to the transmission unit (e.g. col. 11, line 55 - col. 15, line 25), the reference as cited teaches converting the voltage signal into an acoustic signal prior to the actual transmission step. However, Antebi discloses a derivative smart card to that disclosed by Atsmon, which discloses an alternative embodiment to the acoustic transmission wherein the smart card is directly connected to the computer via a cable (col. 14, lines 55-67; cf. the NPL references from the Office Action of 5/15/07 as indicated) through their respective audio jacks provided for that purpose (col. 12, lines 1-15). The claim is thus obvious because the substitution of the cable, which would allow the direct transmission of the modulated voltage signals to the microphone input of the computer, in lieu of the acoustic transformation steps disclosed by the original prior art, would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 2 and 17:

Atsmon further discloses wherein the identification sequence comprises at least a unique card number (col. 16, lines 30-31) and a random number valid only once (col. 81, lines 45-50).

Regarding claim 3 and 18:

Atsmon further discloses wherein the random number is a session key which is not transmitted to the authentication server (col. 16, lines 33-35).

Regarding claim 4 and 19:

Atsmon further discloses wherein the session key is a function of the previous one emitted by the card (col. 16, lines 60-65).

Regarding claim 5 and 20:

Atsmon further discloses wherein the session key is used by the PC applet to generate a message authentication code of the password entered by the user; said first MAC is transmitted to the authentication server along with the card number (col. 52, lines 30-45; see also col. 32, lines 64-67).

Regarding claim 6 and 21:

Atsmon further discloses wherein the server generates a second MAC of the password stored in the server authentication database, using a session key deduced from the previous session key also stored in the database (col. 60, lines 20-38; see also col. 16, lines 60-67).

Regarding claim 7 and 22:

Atsmon further discloses wherein the authentication is valid only if said first and second MAC are identical; and wherein the authentication server replaces Ki-1 with Ki and Ki cannot be reused (col. 78, lines 11-38).

Regarding claim 8:

Atsmon further discloses wherein the smart card is powered by the voltage provided by the microphone input of the PC sound card (col. 3, lines 52-57).

Regarding claim 9:

Atsmon further discloses wherein the smart card transmits the modulated signal when the switch of the card reader is pressed by the user (col. 28, lines 6-18).

Regarding claim 10:

Atsmon further discloses wherein at least one embodiment of the invention conforms to the ISO standards for smart cards (col. 25, lines 10-15). Consequently, it is inherent to such embodiments that the smart card transmits the modulated signal to the microphone input through ISO contact C6 (see also the IS07816 reference, page 3).

Regarding claim 11:

Atsmon further discloses wherein at least one embodiment of the invention conforms to the ISO standards for smart cards (col. 25, lines 10-15). Consequently, it is inherent to such embodiments that the smart card transmits the modulated signal when the ISO contact C2 is pulled down (see also the IS07816 reference, page 3).

Regarding claim 13:

Atsmon further discloses wherein the card reader further comprises a battery cell powering the card (col. 3, lines 52-57; see also element 251 of Figure 26). It is inherent to the SoundBlaster cards used in the preferred embodiment of Atsmon (col. 31, lines 30-35) that they possess line inputs which exist as alternatives to plug other miscellaneous devices into (for illustration, see the previously cited Creative Sound Blaster manual, page 1-7). Also see MPEP 2163.07(a).

Regarding claim 15:

Atsmon further discloses wherein the card reader is further integrated into the PC unit (col. 3, lines 48-52).

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atsmon in view of Antebi as applied to claim 11 above, and further in view of ISO 7816.

Regarding claim 12:

Atsmon further discloses wherein at least one embodiment of the invention conforms to the ISO standards for smart cards (col. 25, lines 10-15). The ISO discloses

only one set of power contacts for one power source (C1 and C5, ISO 7816, page 3, section 2.2.3). However, Atsmon has an embodiment where the smart card is in contact with multiple power sources exist: both a battery on the card (element 251 of Figure 26) and a power supply in the reader (col. 3, lines 52-57); furthermore, contacts C4 and C8 were left reserved for future use. (see ISO 7816, page 4, section 2.3.1). It would have been obvious to use those contacts to allow both power sources to be connected to the card simultaneously, not only because all the claimed elements were known in the prior art, and one skilled in the art could have combined the elements as claimed with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention; but also that one would be motivated to do so in order to allow the card to recharge the battery (Atsmon, col. 3, lines 52-57).

Applicant's response:

Regarding the rejection of claim 1 under 35 U.S.C. § 103(a) over Atsmon in view of Antebi, the applicant has herein amended claim 1 to more particularly point out and distinctly claim the subject matter from the disclosure believed to be patentable.

Claim 1 as herein amended now recites:

1. A card apparatus to provide security for online transactions, comprising:
 - a standard ISO 7816 eight-pad array including a reset (Rst) pad; and
 - onboard components comprising digital storage media, first electronic circuitry compliant with ISO 7816 standards and connected to the pad interface, enabling the card apparatus to be used as a conventional smart card, second electronic circuitry enabled to generate a modulated voltage signal using data from the storage media, the second electronic circuitry connected to one pad of the pad interface not used in the ISO 7816 standard configuration, said one pad dedicated as a modulated signal output pad, and control circuitry enabled to control functions of the first and second electronic circuitry;
 - wherein the control circuitry functions to provide that with the standard ISO 7816 reset (Rst) pad high, no modulated signal output is provided to the dedicated modulated

signal output pad, and with the standard ISO 7816 reset (Rst) pad pulled low, the modulated voltage signal is provided to the dedicated modulated signal output pad.

Applicant is confident the references of Atsmon and Antebi, taken either singly or in any combination, do not anticipate the limitations of claim 1 as amended. The card apparatus recited in claim 1 as amended has all of the circuitry and the pad array of a standard ISO 7816 smart card, and may function in standard card readers and with enabled computers as an ISO 7816 smart card. The claimed card apparatus also has circuitry that is enabled to generate a modulated voltage output on an otherwise unused pad of the ISO 7816 pad array, the signal generated using data from the storage media, and control circuitry which operates with the Rst pad high to prevent the modulated signal from being produced on the dedicated modulated signal pad, and with the Rst pad pulled low, causes the second circuitry to provide the modulated signal to the dedicated pad.

The combination of circuitry, pad array and functions thus recited allows the card apparatus of the invention to be used either as a standard smart card, or as a device for providing, as a dedicated single output on a single pad, a modulated voltage signal. As the references do not teach singly or in combination this combination of limitations, the references may not provide basis for a valid 102 or 103 rejection of claim 1. The examiner will have opportunity, of course to find and apply other references, if such can be found. The applicant believes such references cannot be found.

Claims 2-15 are cancelled, so the rejection of those claims is moot.

Claim 16 as amended now recites a method analogous to the same limitations of claim 1, and as such is unique and patentably distinct over the combination of Atsmon and Antebi, based on the same facts and reasoning provided above in support of the patentability of claim 1 as amended.

Claims 17-22 are cancelled, so the rejection of those claims is moot.

A new claim 23 is added providing a system combining the card apparatus of claim 1 with a unique connector apparatus that connects four of the pads of the card with

a microphone input, with the Rst pad connected through a switch in the connector apparatus, such that closing the switch initiates the control circuitry on the card to provide the modulated signal on the dedicated pad, which is thus provided to the microphone input.

The connector in this recitation is far more narrow in scope than the connector previously claimed in claim 1, and renders the system patentable over Atsmon and Antebi, as well as does the unique limitations recited for the card apparatus.

Summary

As all of the claims, as amended and argued above, have been shown to be patentable over the art presented by the Examiner, applicant respectfully requests reconsideration and the case be passed quickly to issue.

If any fees are due beyond fees paid with this amendment, authorization is made to deduct those fees from deposit account 50-0534. If any time extension is needed beyond any extension requested with this amendment, such extension is hereby requested.

Respectfully Submitted,
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